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NLM Developing Biomedical Communications Network

On August 3, 1968, the 90th Congress passed a joint resolution authorizing the establishment at NLM of a national center for biomedical communications and designated it the Lister Hill National Center for Biomedical Communications (News, August 1968). The Center has been endorsed by the scientific community as an urgently required facility for the improvement of the communications essential to medical research and practice and health education.

Appointment of Dr. Ruth M. Davis as the first Director of the Lister Hill National Center for Biomedical Communications was announced jointly by DHEW Secretary Wilbur J. Cohen and Martin M. Cummings, M.D., Director, NLM. Dr. Davis will continue as Associate Director for Research and Development, NLM, and the R&D staff will also serve as the initial staff of the new Center.

The four principal responsibilities of the Lister Hill Center are: 1) to design, develop, implement, and manage the Biomedical Communications Network (BCN); 2) to apply existing and advanced technology to improve biomedical communications; 3) to serve as the focal point in DHEW for the technological aspects of biomedical communications, information systems, and network projects; and 4) to represent the Department in those activities of the President's Office of Science and Technology, other Federal agencies, and interagency committees related to information and communications.

The development of the BCN has been a principal project of the R&D staff. Network objectives lie in four major areas: 1) to improve medical care to the sick and disabled by accelerating the flow of new knowledge for application in medical practice; 2) to improve delivery of health services; 3) to improve continuing medical education; and 4) to improve public understanding of preventive medicine and healthful living. It is the coupling of the BCN with medical education that is particularly significant here.

To date planning for the BCN has included designation of its five major components: the Library Services Component, the Specialized Information Services Component; the Audio and Audiovisual Services Component; and the Data Processing and Data Transmission Facilities.

The Library Services Component is intended to provide bibliographic citations to biomedical literature, access to the literature itself, and support to the library operations in other reference areas, and in acquisitions, cataloging,

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indexing, and current awareness services. The purpose of the Specialized Information Services Component is to disseminate information in specific subject areas to members of the biomedical and health-related communities using communications, computer, and other relevant technologies.

The Specialized Educational Services Component will support three distinct areas of education: 1) continuing medical education for the medical professional; 2) education of the lay public; and 3) education in related technologies to assist the medical professional. The Audio and Audiovisual Services Component, of course, provides identification of available materials and access to those materials. The Data Processing and Data Transmission Facilities provide support to the other components as required.

The R&D staff is planning and developing an initial phase for each of the BCN components. As the staff of the Lister Hill National Center for Biomedical Communications, they will continue this work. A distinctive BCN Management Process is being followed in this planning and includes the formulation of four basic documents: Statement of Requirements, Technical Development Plans, Network Engineering Plans, and Network Management Plans.

The NLM anticipates a new era of biomedical information services and advances in medical education through the establishment and operation of the BCN, and the resultant application of communications technology.

NLM Holds Library Network Briefing

NLM has begun implementation of the Library Services Component of the Biomedical Communication Network (BCN) by consolidating a number of the existing programs at its MEDLARS Stations and Regional Medical Libraries.

An all-day briefing session was held at NLM on October 9, 1968, for the program directors of the MEDLARS Stations and Regional Libraries.

The following MEDLARS and/or Regional Library Centers were represented: University of Alabama, University of Colorado, University of Washington, Harvard University, University of California at Los Angeles, Ohio State University, University of Michigan, Wayne State University, John Crerar Library, Library of the College of Physicians of Philadelphia, New York Academy of Medicine, Texas Medical Center, and National Institutes of Health Library.

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The participants received a briefing on the Biomedical Communications Network Technical Development Plan as it relates to the Library Services Component. This was followed by more detailed briefings on the operational plans and procedures for regional and network activities relating to interlibrary loans, MEDLARS demand searches, training activities, and the development of audiovisual activities. In addition, the participants received a progress report on the development of MEDLARS II. Also reported were the experimental linkages with the State University of New York (SUNY) Network for on-line MEDLARS and shared cataloging activities.

A major portion of the afternoon session was devoted to discussion of the briefing presentations and of a number of operational problems in the Regional Libraries and MEDLARS Stations. As a result of these discussions, a number of working groups will be established to develop appropriate operations plans.

A follow-up meeting will not be held until the Spring of 1969 to allow more operating experience in the Regional Libraries and time for a number of working groups to develop working papers.

Latest Report on MEDLARS II

On June 11, 1968, NLM contracted with the Computer Sciences Corporation (CSC) of Los Angeles for the design, implementation, and programming support of MEDLARS II (*News*, January 1968, June 1968).

The CSC staff has been working with the Library staff to refine and up-date the original RFP requirements preliminary to the more detailed systems design. They have also been engaged in developing design specifications for the Computer System for Medical Information Services (COSMIS), a data management system to handle most functions required in library applications.

The initial facility for the IBM 360-50 computer system will, in large part, be located adjacent to the present computer area, with necessary expansion into the Honeywell 800/200 area as MEDLARS I is phased out.

The implementation of the new system is to be accomplished in three stages. Level I, to be operational during late 1969, will be a batch processing system using mass storage devices for the data base and large core storage as an extension of the main memory. Level II, to be fully operational in 1971, will provide the NLM staff with an on-line, interacting capability. This will provide direct access to the data base and controlled vocabulary through display and hard copy devices for indexing, cataloging, data base maintenance, and product retrieval, including demand searches. The NLM staff will have fingertip-access to all the knowledge stored in the data base. Eventually, remote devices at selected locations outside the Library will provide approximately this same access to the data store.

Finally, in 1971, Level III will be initiated. This will be both an extension of Level II and integration of the system with the Biomedical Communications Network. It will greatly enlarge access to data base for many users to be part of the Network.

NLM On Line With SUNY

On August 30, 1968, the National Library of Medicine began experimental on-line computer communication with the State University of New York (SUNY) Biomedical Communication Network. This program is a cooperative project first conceived about 18 months ago. The linkage is now being used to exchange shared cataloging information with the Upstate Medical Center Library and the Countway Library of Medicine at Harvard, as well as for TSD searching.

Searchable files will consist of data from the *NLM Current Catalog*, MEDLARS, the SUNY Union Catalog, and Countway cataloging information. Only a part of these files is resident in the system at this time. The search systems are still undergoing tests and are, therefore, only partially functional. Search programs are available to retrieve catalog data and citations from MEDLARS.

Other participants in the present system are the Upstate Medical Center Library in Syracuse, the School of Medicine and Dentistry at the University of Rochester, the Health Sciences Library of SUNY at Buffalo, the Albany (New York) Medical College Library, the Downstate Medical Center Library in Brooklyn, and the Parkinson's Information Center at Columbia University.

Additional linkage is also being developed with the Specialized Information Center of the Parkinson's Information Center at Columbia University. This Center is part of the National Institute of Neurological Diseases and Blindness Specialized Information Center.

SUNY Conference Is Held

NLM was represented by Martin M. Cummings, M.D., Director, National Library of Medicine, and Dr. James Lieberman, Associate Director for Audiovisual and Telecommunications and Director, National Medical Audiovisual Center, at a recent conference on Continuing Education in the Health Sciences, sponsored by SUNY at Syracuse, October 3-4.

Designed to explore new patterns in continuing education to meet New York's increased demands for effective delivery of health services, the two day conference featured four major themes with a position paper on each as a prelude to discussion by selected panel experts.

Dr. Lieberman presented a position paper on the theme, "Communications Media and Automation in Continuing Education." The paper emphasized the need for an effective alliance between the printed word and electronics media so that a major effort could be launched in the area of self-directed study and self-paced learning. New technology, offering much in the way of accessibility of material for the health practitioner, was emphasized.

As a panel expert for the session, Dr. Cummings described the Library's present program for extending NLM's resources to the biomedical community at large through cooperative working relationships with Regional Medical Libraries and other field installations. He described in detail the new Lister Hill National Center for Biomedical Communications, and how the Biomedical Communications Network, when completed, would permit a major exchange of data and learning resources for use by practitioner and scientist in behalf of improved patient care throughout the nation.

TV Introduced at NLM

The audiovisual resources of NLM were augmented last month when television viewing (with headsets) was initiated on an experimental basis in the Reading Room. Selected videotapes have been obtained from the Network for Continuing Medical Education, New York, and the Library is now receiving the Network's regular biweekly videotape telecasts.

To the videotapes currently on hand will be added others from the National Medical Audiovisual Center, medical schools, and other producers of television programs for medical education.

The addition of television viewing facilities to NLM's previously limited audiovisual reference services is a step toward the development of an audiovisual resource area within the Library. There, materials in diverse forms and media- audiovisual, printed, etc. - will be organized around specific biomedical subjects.

Television as a supplementary reference resource has been well received by Library readers. Viewers are asked to complete an evaluation form on the content and technical qualities of individual telecasts. The experiment thus will assist both producers and users of medical telecasts, offering valuable guidance on the effective employment of videotape in medical education.

Note for Historians

Those who knew the National Library of Medicine under its earlier names (Army Medical Library, Armed Forces Medical Library), will be interested to learn of the official closing of NLM's former home, the "Medical Museum Building," at 701 Independence Avenue, S.W., on October 4, 1968. After more than a century of service to both libraries and pathology, the old red brick structure was locked after appropriate ceremonies conducted by the Armed Forces Institute of Pathology.

MLA Area Group Meets

At the Annual Meeting of the Washington, D.C. Area Group of the Medical Library Association held in Richmond, Virginia, on October 5, 1968, Mr. Samuel Waters, Acting Deputy Associate Director of Library Operations, presented a report on NLM's Mid-Atlantic Regional Service Program.

NLM is serving as the Regional Medical Library (RML) for the Mid-Atlantic area (D.C., Maryland, Virginia, and West Virginia) because of the strength of its resources and its central location for the users.

The NLM program for Mid-Atlantic service has two aims: to satisfy regional needs for biomedical information, and to create a model regional program within which various procedures for regional service can be tested and through which realistic standards for regional service can be developed.

The Library Operations Program of NLM is providing new and improved services to the region, including continuing education of medical librarians and training of health professionals in effective use of bibliographic resources, as well as providing liaison between NLM, other Federal medical operations, and the biomedical libraries in the region.

The Mid-Atlantic Regional Medical Library, like all RML's, will supplement, not supplant, existing resources and patterns of service. Therefore, it must also establish improved cooperation within the region as well. Toward this aim, NLM met in July 1968, with librarians of the major medical libraries in the region. Also, on September 4, NLM met with staff from the Veterans Administration Library and from the NIH Regional Medical Program, and with representatives from each of the four individual Regional Medical Programs in the Mid-Atlantic area. Another meeting was held September 19, with the librarians of major medical libraries to focus on cooperation with other libraries to provide the most efficient service to users. NLM also seeks to involve libraries in identifying and working on specific problem areas such as information about medical library resources, training needs, and selection guides for medical libraries.

Plans for the future include meetings with hospital librarians and with concerned and knowledgeable users who can articulate their needs and are willing to assist in an advisory capacity; establishment of a small, permanent advisory group; and development of further cooperative and backstop service at the state and local level.

NLM Staff Attend AFIP Course

Dr. Jaroslav Nemec, Reference Librarian specializing in medical jurisprudence, and Robert S. Snyder, Jr., D.D.S., Research Analyst for the American Dental Association at NLM, were selected to attend the fifth Forensic Dentistry Course at the Armed Forces Institute of Pathology, October 7-11, 1968.

This was one of AFIP's varied Courses in Continuing Education; the 121 participants included both civilians and members of the various uniformed services, as well as nine foreign nationals. Also attending was Kenneth C. Lynn, D.D.S., until recently Special Assistant to the Chief, RSD.

Personnel

Richard J. Durling, Curator of Early Western Manuscripts, HMD, left the Library in October to accept a position at King's College, Cambridge, England as Assistant Under-Librarian. Mr. Durling is the author of NLM's *Catalog of Sixteenth Century Printed Books*, which has already sold over 2,000 copies. He had been with the Library since September 1962.

Linn W. Kelner, D.D.S., has joined the Library Operations staff as MEDLARS Search Training Officer. Dr. Kelner was previously with the MEDLARS Search Station at the University of Michigan.

Adriana (Anne) McCann, Senior Medical Subject Heading Specialist, Medical Subject Headings, Bibliographic Services Division, has transferred to the Science Information Facility of the Food and Drug Administration. Miss McCann had been with the Library since April 1964.

Stanley R. Smith is now Chief of the Technical Services Division with Mr. Salvatore L. Costabile serving as Deputy Chief. Mr. Smith came to the Library in July 1967, from the CIA Library in Langley, Virginia.

New NLM Literature Searches

Single copies of the following new bibliographies are available on request to the Office of Public Information, National Library of Medicine, 8600 Rockville Pike, Bethesda, Maryland 20014. They should be ordered by number. Please do not send requests on interlibrary loan forms.

L.S. No.	TITLE
15-68	Insect control by sexual sterilization. January 1964-August 1968. (98 citations)
16-68	Tooth transplantation. January 1964-July 1968. (90 citations)
17-68	Veterinary dentistry. January 1964-July 1968. (69 citations)
18-68	Factors in glucose tolerance in aged humans. January 1964-July 1968. (23 citations)
19-68	Coronary care units. January 1964-August 1968. (164 citations)
20-68	Indian health in the U.S. and Canada. January 1964-August 1968. (228 citations)
21-68	Computer analysis of the electroencephalogram. January 1964-August 1968. (167 citations)

Publications

Two new publications have recently been received and distributed under the National Library of Medicine's Special Foreign Currency Program, which is administered through the Library's Publications and Translations Division. These publications have already been distributed to depository libraries in the U.S. and Canada.

1. Prywes, Moshe and Davies, A. Michael, Editors: *Proceedings of Fourth Rehovoth Conference on Health Problems in Developing States*, August 15-23, 1967, Jerusalem and Rehovoth, Israel. 773 pp. Published as Volume 4, Number 3 (May-June 1968) of the *Israel Journal of Medical Sciences*. A limited number of copies are available on request to the Office of Public Information and Publications Management.

   The Proceedings of the Fourth Rehovoth Conference, in which 71 delegates, statesmen and scientists from 35 nations participated, cover a wide range of topics on health problems in developing countries, including: priorities in health and health services, patterns and control of disease, population control, social change and health, health manpower, education and training and health insurance.

2. Kume Matazo and Dan, Katsuma, Editors: *Invertebrate Embryology*. Translated from the Japanese by Jean C. Dan, Belgrade: published for the National Library of Medicine and the National Science Foundation by the NOLIT Publishing House, 1968. XVI + 605 pp. TT 67-58050. Copies may be purchased from the Clearinghouse for Federal Scientific and Technical Information, Springfield, Virginia 22151. Price: $6.00.

   This broad overview was originally published in Japanese in 1957. In addition to a comprehensive introduction by the editors, the book includes chapters, by Japanese specialists, on: Porifera, Coelenterata, Platyhel-Minthis, Nemertini, Nemathelminthes, Anneleda, Prosopygii, Echinoderma, Arthropoda, Mollusca, and Tunicator.

MEDLARS: 1963-1967 Off Press

The updated version of the *MEDLARS Story* has just been published by the National Library of Medicine. Titled *MEDLARS: 1963-1967*, the publication reports the experience gained from more than four years' operation of NLM's large-scale reference storage and retrieval system, MEDLARS (Medical Literature Literature Analysis and Retrieval System). It is the most comprehensive publication now available on the Library's computer system and the numerous activities related to this system.

The report was written by Mr. Charles J. Austin, Director of Computer Services and Assistant Professor of Preventive Medicine, University of Colorado Medical Center, Denver, Colorado. He was formerly Chief of the Information Systems Division at the National Library of Medicine.

MEDLARS: 1963-1967 (Public Health Service Publication No. 1823) can be purchased for $0.75 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.